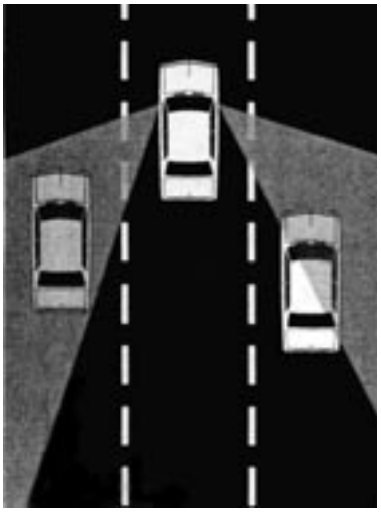
Here's a short test:

Most accidents happen:

a. in clear weather
b. in snow
c. in rain
d. in fog

If you picked anything but (a), you're wrong — pretty days can be deadly too! In this chapter, we want to focus on avoiding collisions in any weather.

Changing Lanes—Blind Spots



- Check your blind spots.
- Driver in front car cannot see other two cars just by checking mirrors.
- Check mirrors, look over shoulder toward the rear, and signal your intentions before changing lanes.
- Change lanes gradually and carefully.
- Do not cruise in blind spot of vehicle ahead of you.

Avoiding Collisions

When it looks like a collision may happen, many drivers panic and fail to act. In some cases they do act, but do something that does not help to reduce the chance of the collision. There almost always is something you can do to avoid the crash, or reduce the results of the crash. In avoiding a collision, drivers have three options:

1. stop,
2. turn, and
3. speed up.

Stopping Quickly

Many newer vehicles have ABS (Antilock Braking System). Be sure to read the vehicle owner's manual on how to use the ABS. The ABS system will allow you to stop without skidding. In general, if you need to stop quickly:

With ABS — If you have an antilock braking system and you need to stop quickly:

- Press on the brake pedal as hard as you can and keep pressing on it.
- You might feel the brake pedal pushing back when the ABS is working. Do not let up on the brake pedal. The ABS system will only work with the brake pedal pushed down.

Without ABS — If you must stop quickly and you do not have an antilock braking system:

- You can cause the vehicle to go into a skid if you brake too hard.
- Apply the brakes as hard as you can without locking them.
- If the brakes lock-up, you will feel the vehicle start to skid. Quickly let up on the brake pedal.
- As soon as the vehicle stops skidding, push down on the brake pedal again. Keep doing this until the vehicle has stopped.

Turning Quickly

In most cases, you can turn the vehicle quicker than you can stop it. You should consider turning in order to avoid a collision.

Make sure you have a good grip with both hands on the steering wheel. It is best to have your hands at about the 10 o'clock and 2 o'clock positions. Once you have turned away or changed lanes, you must be ready to keep the vehicle under control. Some drivers steer away from one collision only to end up in another. Always steer in the direction you want the vehicle to go.

With ABS — One aspect of having ABS, is that you can turn your vehicle while braking without skidding. This is very helpful if you must turn and stop or slow down.

Without ABS — If you do not have ABS, you must use a different procedure to turn quickly. You also step on the brake pedal, but then you let up and turn the steering wheel. Braking will slow the vehicle some, and it puts more weight on the front tires and this allows for a quicker turn. Do not lock up the front wheels while braking or turn so sharply that the vehicle can only plow ahead.

Another consideration is that generally it is better to turn off the road than to crash head-on into another vehicle.

Speeding Up

Sometimes it is best or necessary to speed up to avoid a collision. This may happen when another vehicle is about to hit you from the side or from behind and there is room to the front of your vehicle to get out of danger. Be sure to slow down once the danger has passed.

Winter Driving

The three big errors of most drivers in snow and ice are:

- To over-power and spin wheels
- To over-brake and slide wheels
- To over-steer and skid front wheels

Reduced visibility requires that you make every effort to keep the windshield and all glass clear of snow and ice. The heater-defroster should be in good condition. Windshield wiper blades should work particularly well. Keep the inside of the windshield and door glasses clean.

A good outside rearview mirror is of great help, particularly if the back window glass tends to fog over.

To help others see you, always use headlights when visibility is restricted by atmospheric or other conditions.

Effect of Temperature on Starting and Stopping Traction — Wet ice at 30 degrees offers about one-half the traction that is to be had at 25 degrees. If the temperature is 25-30 degrees, ice-covered roads are certain to be slippery. If the temperature is down to 10-15 degrees, there will be a noticeable increase in traction.

Inadequate Traction to Go — Overpowering and spinning the wheels creates heat directly under the tires, raises the temperature, and reduces the available traction. Start your car slowly and avoid spinning wheels when moving your car on ice or snow. Have good treads on front wheels to improve steering ability. Snow tires are helpful for winter driving.

Reduced Ability to Stop and Loss of Steering — Low traction also makes stopping difficult. When traveling at 20 m.p.h., low traction can increase stopping distance to 200 feet or more.

Braking on Ice and Snow — The most efficient technique for braking under these conditions is to use "threshold" or "squeeze braking" together with de-clutching (manual shift) or shifting to neutral (automatic transmission). Squeeze braking is accomplished by applying the brakes firmly, to a point just short of lock up, and then easing off the brake pedal slightly (not completely), if the wheels should lock. Re-apply the brakes to a point just short of lock up and hold. Do not pump the brake pedal, just apply steady pressure. This will give you the best combination of braking effort and directional control.

Ice on Roads and Bridges — Where Not Expected: The sunny side of a hill may be wet, the shady side covered with thin ice. Usually, signs indicate that ice forms on bridges sooner than on the adjoining roads. In such instances, the car ahead of you may have crossed the icy part of the road and stopped. But a long patch of ice behind his car can easily cause you to skid into him.

Ice and Snow Made Slippery by Traffic — On streets and highways where there is considerable stop-and-go traffic, it does not take long after a storm before the snow packs hard and becomes extremely slippery because of many sliding and spinning wheels. To some extent, steering to one side or the other of the packed section will help avoid the slickest surface. However, great caution should be used when driving on ice and snow.

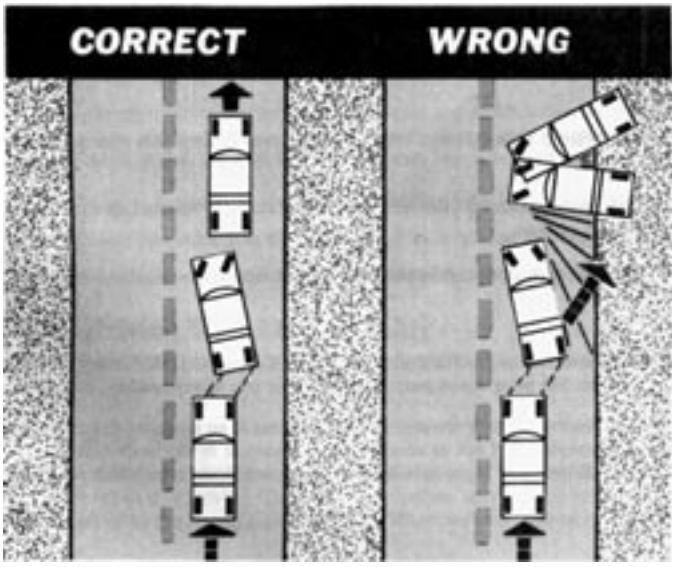
Skids

"If Your Wheels Don't Roll You Don't Have Control"

Skids are caused when the tires can no longer grip the road. Any road that is safe under normal conditions can be dangerous when it is wet or has snow or ice on it. High speeds under normal conditions also increase the possibility of a skid if you must turn or stop suddenly.

Skids are caused by drivers traveling too fast for conditions. If your vehicle begins to skid:

- *Stay off the brake*. Until the vehicle slows, your brakes will not work and could cause you to skid more.
- *Steer*. Turn the steering wheel in the direction of the skid. As soon as the vehicle begins to straighten out, turn the steering wheel back the other way. If you do not do so, your vehicle may swing around in the other direction and you could start a new skid.
- *Continue to steer*. Continue to correct your steering, left and right, until the vehicle is again moving down the road under your control.



The best advice is to do everything you can to avoid ever skidding in the first place. Be aware of weather conditions and slow down well in advance of stopping point when driving on ice or packed snow. During thawing and freezing weather, be alert for slippery areas on bridges and in sheltered areas.

Driving In Rain And Fog

Wet pavement can be as treacherous as icy pavements, so always reduce your speed in wet weather. You will need additional distance for stopping, and you may skid on quick turns.

The pavement is particularly treacherous when it first begins to rain. Accumulation of dirt and oil will mix with the water, and create a greasy film on the highway.

Tires sometimes hydroplane on a wet highway, leaving the car without road contact. When hydroplaning occurs there is a loss of the traction needed to steer and brake safely.

Stopping distances may be tripled and steering control may be reduced or lost. How soon hydroplaning begins depends on speed, tire inflation, water depth (even a half-inch or less), road surface, and tire tread.

Both rain and fog create vision problems as well as vehicle control problems. Keep your windshield wipers in good condition, and wait a few seconds after rain starts before you turn them on. There should be enough water on the windshield for the wipers to clear it, not smear it with dust and grime.

If you drive in fog, reduce speed to make up for reduced visibility. Use headlights on low beam so the light will be on the road where you need it. In fog or mist, never put your headlights on high beam because the light will be reflected back into your eyes.

RAIN: Drivers often have to change driving habits to adjust to poor driving conditions caused by weather. Rainy weather calls for:

- Slower speed.
- Greater stopping distance.
- Driving with headlights on low beam.
- Use of wipers and defroster as necessary for maximum vision.
- An early signal of all turns.
- Braking well in advance of a stop to warn following drivers of your intentions.

FOG: The best advice for driving in the fog is "DON'T." If you must drive:

- Drive with lights on low beam. Never drive with just your parking or fog lights.
- Reduce your speed.
- Avoid crossing traffic unless absolutely necessary.
- Listen for traffic.
- Use wipers and defroster as necessary for maximum vision.
- Be patient! Avoid passing.
- Unless absolutely necessary, do not stop on any roadway.
- If your car stalls or is disabled, move away from the vehicle to avoid personal injury.
- Consider postponing your trip until the fog clears.
- Adhere to warning devices in fog-prone areas.

The previous suggestions are **only** recommendations, which may be exercised by a driver in situations where rain or fog presents visibility problems.

Defensive Driving

If every driver always obeyed the rules, and always behaved in a sensible way, driving would be simpler and safer. Unfortunately, this ideal situation does not exist. Instead we frequently encounter drivers who behave unpredictably or recklessly, and other highway users, such as pedestrians and bicyclists, who ignore the rules that apply to them.

To protect yourself, you must learn to drive defensively. This means anticipating errors by others and preparing to compensate for their mistakes. In addition, you must always behave in a correct and sensible fashion yourself so that you do not confuse other drivers.

Drive Alert

The defensive driving rules are simple and easy to follow. If you follow them, you should be able to avoid getting yourself into difficult situations. The rules are:

Use your rearview mirrors. Constantly check the traffic behind you. Always look in the mirror before you change lanes. Stay out of another driver's blind spot.

Do not travel in a position where the driver ahead of you cannot observe your vehicle in his rearview mirror; he might pull out in front of you to pass a car. Either stay far enough behind or pass.

Expect the other driver to do the wrong thing, and have a plan of action prepared to counter his error.

How To Avoid Rear-End Collisions

The Two (2) Second Rule — As the car ahead of you passes a point on the road (a sign post, line on the highway, etc.) count to yourself 1,001, 1,002. If you reach that point before you say 1,002 you are following too closely. This will hold true at any speed on State and U.S. Highways with moderate speed limits. However, during inclement weather the 2-second rule should be increased to allow for limited visibility and hazardous road conditions.

On Interstate Systems where the speed limit exceeds the posted speed limits of State and U.S. Highways, the three (3 second rule applies. Again inclement weather conditions will mandate that the three (3) second rule be increased to allow for limited visibility and hazardous road conditions.

Concentration — Concentration is one of the most important elements of safe driving. The driver's seat is no place for daydreaming, mental napping, window shopping, scenic viewing or distracting conversation. Lack of concentration can result in a driver's failure to be observant enough to avoid an accident. Driving an automobile is a full-time job. There have been too many accidents after which the driver said (if he survived), "I don't know what happened."

Control of Driving Space

Always drive in such a manner that you are able to control the space (safe zone) between your vehicle and others. At times this may mean slowing or increasing your speed (within lawful limits only). Try to maintain a safe zone to the front, rear and each side of your vehicle at all times in order

to provide an area of escape or prevention should an emergency occur.

Adjust Your Speed To Conditions

No person shall drive any vehicle upon a highway at a speed greater than will permit him to stop within the assured clear distance ahead. When driving conditions are less than ideal all persons operating motor vehicles on the public highway shall drive at a careful and prudent speed not greater than is reasonable and proper having due regard for the following conditions:

- **Traffic** — When traffic is heavy, congested or moving slowly.
- **Surface** — When the road surface is rough, icy, wet or otherwise provides poor traction.
- **Width** — When the width of the roadway reduces your margin of safety.
- **Weather** — When weather conditions affect sight distance and traction. (Rain, snow, fog, dust or smoke.)

Slow Speed — No driver shall drive at such a slow speed as to hold back or block the normal and reasonable flow of traffic.

Drive At Moderate Speeds — As your speed increases, so does your car's wind resistance — a big factor in gasoline mileage. Most automobiles get about 28 percent more miles per gallon on the highway at 50 miles per hour than at 70 and about 21 percent more at 55 than at 70.

Use Of Headlights

In general, the lights on your car serve two purposes; to see the roadway when it is dusk or dark, and to help others see you when visibility is low. Even on cloudy or overcast days using your headlights will make your vehicle more visible and may help prevent such things as another driver pulling in front of your car too closely.

When Meeting Another Vehicle

You need to switch to low beam. Be quick to lower your light beams as you approach other traffic, or if you are overtaking others. This practice is not only road courtesy; it aids in safe driving at night.

DIM LIGHTS WHEN MEETING OR OVERTAKING VEHICLES WITHIN 500 FEET.

USE YOUR LOW BEAMS in cities and towns.

ON RIGHT CURVES AVOID "blasting" an oncoming car with your high beams.

Safe Driving At Night

The basic rule for safe night driving is this: NEVER OUTRUN YOUR HEADLIGHTS. Your stopping distance should always be less than your sight distance. The law requires headlights which will enable you to see clearly any person on the highway at least two hundred (200) feet ahead of your car. Since the effectiveness of headlights diminishes greatly as the distance increases, headlights must be in good order to meet this requirement. They must also be accurately aimed, with clean lenses and a clean windshield inside and out.

Driving at night is considerably more hazardous and difficult than daytime driving. Remember that your range of visibility is limited by your headlights. It is doubtful that you can identify the position, distance and nature of an object within the few seconds it takes for your vehicle to travel several hundred feet. To cope with oncoming traffic during the hours of darkness, you should:

- Develop the ability to glance well in front of your headlight beams, looking for dark shapes on the roadway.
- Glance periodically to the right and left to determine the location of the edge of pavement and oncoming vehicles.
- Avoid looking directly into oncoming headlights which causes momentary blindness.

When Driving With Low Visibility

WHEN DRIVING THROUGH DENSE FOG, HEAVY RAIN OR SNOW DURING THE DAYTIME, turn on your low beam headlights to give you better visibility and alert oncoming cars. Have good operating windshield wipers so that they do an effective job.

Parking At Night

When parking at night, never leave your headlights on. They are just as likely to blind approaching drivers when your car is stationary as they are when it is moving. They may also confuse approaching drivers as to the exact position of the road. The danger is increased if you are parked on the wrong side of the road. Whenever you park on or along a highway at night, leave your emergency lights on.